

breakout ABSTRACT

Abstract No. 16

TITLE

SERVICE ORIENTED ARCHITECTURE: A PRACTICAL APPROACH TO DATA TRANSPORT, INTEGRATION AND LINKAGE FOR THE ENVIRONMENTAL PUBLIC HEALTH TRACKING NETWORK

TRACK

Technology

OBJECTIVES

How to develop new services and expose existing applications and data sources as services using standards and service-oriented development techniques.

How to integrate services with reliable messaging, data transformation, and intelligent routing capabilities from a standards-based network.

How to monitor and analyze information in an SOA using sensors and events to track environmental hazard and health effects and respond in real time.

SUMMARY

The National EPHT Network aims to provide researchers, public health officials, healthcare practitioners, and the public standardized data from multiple health, exposure, and hazard information systems that includes linkage of these data as part of regular tracking activities. Integration and linkage of environmental and public health systems is currently very complex and time-consuming due to a lack of coordination, technologies, and standards. For a long period of time, most health and environmental data systems have been developed as point solutions to specific departmental requirements. This type of system development leads to "silo architecture," where systems are self-contained in a single silo and nearly all of their services can be used by users within that silo. As a result, sharing data between system silos is rare, and this approach also provides poor support for access to environmental, health, and linked environmental-health data as well as data exchanges and data linkages. Unfortunately, silo architecture systems are hard to integrate because each silo typically has separate and incompatible data and services. Propelled by standards-based technologies like XML, Web Services, and SOAP, Service-Oriented Architecture (SOA) can meet these needs of the EPHT Network implementation. In this presentation, technical concepts and practical applications of SOA will be described to demonstrate how SOA can be used to: develop new services and expose existing applications and data sources as services using standards and service-oriented development techniques; integrate services with reliable messaging, data transformation, and intelligent routing capabilities from a standards-based network; monitor and analyze information in an SOA using sensors and events to track environmental hazard and health effects and respond in real time; expose services and data for rich interface development of the EPHT portal; provide and manage security policies and services for authentication, authorization, data encryption, and data integrity.



Implementing The Tracking Network

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